

REMARKS

With the addition of claim 42, claims 1, 4-7, 9, 10, 14-16, 19-21, 30, 31, 33, and 35-41 are pending. Claim 42 is added to claim a process for producing polyester which comprises adding a catalyst described in claim 21. Claim 42 is worded in a way similar to claims 40 and 41. No new matter is created by claim 42.

Applicants' Statement on the Substance of Examiner Interview

The undersigned would like to thank Examiner Lee and Supervisory Primary Examiner Wu for the courtesy extended during a personal interview conducted on July 26, 2006. In the interview, applicants presented data to show unexpected results with the claimed invention in comparison with the closest working examples in the Jackson reference and Ridland reference. Examiner Lee and Supervisory Primary Examiner Wu indicated that, in light of the unexpected results, the obviousness rejections of the pending claims over Jackson and Ridland would be withdrawn if applicants would amend the claims to delete the recitations of metal aluminum, aluminum oxides and partial hydrolyzates of an organoaluminum compound from the claims.

Claim Rejections Involving Jackson

I. Applicants respectfully traverse the obviousness rejections of claims 1, 4-6, 9, 10, 19, 30, 31 and 37-41 over Jackson (US 3,847,873). Jackson differs from claims 1, 4-6, 9, 10, 19, 30, 31 and 37-41 at least in not teaching or suggesting a polymerization catalyst comprising an aluminum substance and a phosphorus compound having an aromatic ring structure. The prior art does not provide any suggestion or motivation to modify the polymerization catalysts of Jackson to arrive at the subject matters of claims 1, 4-6, 9, 10, 19, 30, 31 and 37-41.

Without acquiescence with the assertion by the Office Action that claims 1, 4-6, 9, 10, 19, 30, 31 and 37-41 are prima facie obvious over Jackson, applicants request that the Patent Office considers the attached Rule 132 Declaration. The Rule 132 Declaration demonstrates that the polymerization catalysts of the claimed invention can

achieve unexpected results in comparison with the closest and best performing polymerization catalyst of Jackson. Among Examples 1-6 of Jackson, Example 6 of Jackson had the most effective polymerization catalyst (containing aluminum acetylacetonate and diethyl hexadecylphosphonate) in terms of polycondensation time and intrinsic viscosity. Comparative Example 1 described in the attached Rule 132 Declaration was aimed at emulating Jackson's Example 6. Because diethyl hexadecylphosphonate used in Jackson's Example 6 was not commercially available in Japan, in Comparative Example 1 of the Rule 132 Declaration diethyl hexadecylphosphonate was replaced with dimethyl octadecyl phosphonate, a non-aromatic phosphonate having a similar chemical structure. Each of Examples 1-10 of the Rule 132 Declaration used a polymerization catalyst that falls within claim 1.

The polymerization catalysts in Examples 1-10 of the Rule 132 Declaration unexpectedly performed significantly better than the polymerization catalysts used in Comparative Examples 1-4. The polymerization catalyst used in Comparative Example 1 was prepared based on Jackson's Example 6. The polymerization catalyst used in Comparative Example 3 was prepared based on Jackson's Example 3. The polymerization catalysts used in Examples 1-3 and 5-10 were shown in the attached Rule 132 Declaration to unexpectedly have higher catalytic activities, as measured by polycondensation reaction time (34 to 137 minutes versus 180 minutes), than the polymerization catalysts of Comparative Examples 1 and 3. Unexpectedly, the polymerization catalyst in Example 4 produced polyester having an intrinsic viscosity of at least 0.573, while the polymerization catalysts used in Comparative Examples 1 and 4 produced polyester having unsatisfactory, lower intrinsic viscosity of 0.429 or 0.483. In addition, the Rule 132 Declaration shows that the polymerization catalysts used in Examples 1-10 produced polyester that was clear and transparent, while the polymerization catalysts used in Comparative Examples 1 and 3 produced hazy polyester. Based on the ordinary skill in the art, it is unexpected that the polymerization catalysts of Examples 1-10 of the claimed invention would perform much better than the closest polymerization catalysts of Jackson. Withdrawal of the obviousness rejections of claims 1, 4-6, 9, 10, 19, 30, 31 and 37-41 over Jackson is requested.

II. Applicants respectfully traverse the obviousness rejections of claims 7, 14-16, 20, 21, 33, 35 and 36 over Jackson in view of Aoyama (CA 2,253,515). Jackson differs from claims 7, 14-16, 20, 21, 33, 35 and 36 at least in not teaching or suggesting a polymerization catalyst comprising an aluminum substance and a phosphorus compound having an aromatic ring structure. Aoyama does not provide any suggestion or motivation to modify the polymerization catalysts of Jackson to arrive at the subject matters of claims 7, 14-16, 20, 21, 33, 35 and 36.

Without acquiescence with the assertion by the Office Action that claims 7, 14-16, 20, 21, 33, 35 and 36 are prima facie obvious over Jackson in view of Aoyama, applicants submit that the unexpected results demonstrated in the attached Rule 132 Declaration concerning the polymerization catalysts of the claimed invention over the closest and best performing polymerization catalysts of Jackson would also overcome the alleged prima facie obviousness of claims 7, 14-16, 20, 21, 33, 35 and 36 over Jackson in view of Aoyama.

At least because of the above reasons, the obviousness rejections should be withdrawn.

Claim Rejection Involving Ridland

I. Applicants respectfully traverse the obviousness rejection of claims 1, 4-7, 9, 10, 14-16, 19-21, 30, 31, 33, 35, 36 and 38-41 over Ridland (WO 99/28033). Ridland differs from claims 1, 4-7, 9, 10, 14-16, 19-21, 30, 31, 33, 35, 36 and 38-41 at least in not teaching or suggesting a polymerization catalyst comprising an aluminum substance and a phosphorus compound having an aromatic ring structure. The prior art does not provide any suggestion or motivation to modify the catalysts of Ridland to arrive at the subject matters of claims 1, 4-7, 9, 10, 14-16, 19-21, 30, 31, 33, 35, 36 and 38-41.

Without acquiescence with the assertion by the Office Action that claims 1, 4-7, 9, 10, 14-16, 19-21, 30, 31, 33, 35, 36 and 38-41 are prima facie obvious over Ridland, applicants request that the Patent Office considers the attached Rule 132 Declaration. The Rule 132 Declaration demonstrates that the polymerization catalysts of the claimed

invention can achieve unexpected results in comparison with the closest catalyst of Ridland. Among Examples 3, 5 and 8-14 of Ridland, the catalyst (containing aluminum sec-butoxide and butyl phosphate) used in Example 12 of Ridland was the closest. Comparative Examples 2 and 4 were performed based on Ridland's Example 12. Each of Examples 1-10 of the Rule 132 Declaration used a polymerization catalyst that falls within claim 1.

The polymerization catalysts in Examples 1-10 of the Rule 132 Declaration unexpectedly performed significantly better than the polymerization catalysts used in Comparative Example 2 and Comparative Example 4. Specifically, the polymerization catalysts used in Examples 1-10 produced polyester having an intrinsic viscosity of 0.573-0.642, while the polymerization catalyst used in Comparative Example 2 produced a polyester having an unsatisfactory, lower intrinsic viscosity of 0.412. In addition, the Rule 132 Declaration shows that the polymerization catalysts used in Examples 1-3 and 5-10 had higher catalytic activities, as measured by polycondensation reaction time (34 to 137 minutes versus 180 minutes), than the polymerization catalyst used in Comparative Example 2.

The polymerization catalysts used in Examples 1-10 produced clear and transparent polyester, while the polymerization catalysts used in Comparative Examples 2 and 4 produced hazy polyester, which was commercially inferior to the polyester produced by the polymerization catalysts used in Examples 1-10. The difference in the transparency of the polyester produced by the polymerization catalysts used in Examples 1-10 versus the polyester produced by the polymerization catalysts used in Comparative Examples 2 and 4 was unexpected based on the knowledge of ordinary skill in the art.

Based on the ordinary skill in the art, it is unexpected that the polymerization catalysts of Examples 1-10 of the claimed invention would perform better than the closest polymerization catalyst of Ridland. The Rule 132 Declaration demonstrates that the polymerization catalysts of the claimed invention can achieve unexpected results over the polymerization catalysts of Ridland. Withdrawal of the obviousness rejections

of claims 1, 4-7, 9, 10, 14-16, 19-21, 30, 31, 33, 35, 36 and 38-41 over Ridland is requested.

II. Applicants respectfully traverse the obviousness rejections of claims 7, 14-16, 20, 21, 33, 35 and 36 over Ridland in view of Aoyama. Ridland differs from claims 7, 14-16, 20, 21, 33, 35 and 36 at least in not teaching or suggesting a polymerization catalyst comprising an aluminum substance and a phosphorus compound having an aromatic ring structure. Aoyama does not provide any suggestion or motivation to modify the polymerization catalysts of Ridland to arrive at the subject matters of claims 7, 14-16, 20, 21, 33, 35 and 36.

Without acquiescence with the assertion by the Office Action that claims 7, 14-16, 20, 21, 33, 35 and 36 are prima facie obvious over Ridland in view of Aoyama, applicants submit that the unexpected results demonstrated in the attached Rule 132 Declaration concerning the polymerization catalysts of the claimed invention over the closest catalyst of Ridland would also overcome the alleged prima facie obviousness of claims 7, 14-16, 20, 21, 33, 35 and 36 over Ridland in view of Aoyama.

At least because of the above reasons, the obviousness rejections over Ridland in view of Aoyama should be withdrawn.

III. Obviousness-Type Double Patenting

Applicants respectfully traverse the rejections of the instant claims over the claims in U.S. Patent Application Nos. 10/186,634 and 10/169,491 under the doctrine of obviousness-type double patenting. Without acquiescence with the rejections, applicants have attached two terminal disclaimers. Withdrawal of the rejections is requested.

CONCLUSION

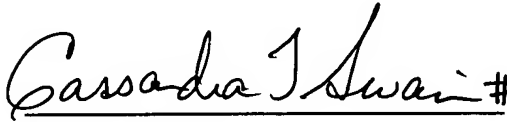
In view of the above reasoning, applicants submit that the application is in a condition for allowance. In the event that the filing of this paper is deemed not timely, applicants petition for an extension of time. The Commissioner is authorized to charge

the petition fee and any fees required in relation to the filing of this paper to Deposit
Account No. 11-0600.

Respectfully submitted,
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